

What we face:

Thousand Cankers poses a serious problem to the health of the black walnut tree. Walnut trees are important because of their nut crop and the desired wood for various wood products. The Kansas Department of Agriculture, Kansas Forest Service, and the Kansas State University Extension Service are asking for your help in educating clients, stopping introduction, and limiting the spread of this disease into Kansas with early detection. We are deeply concerned if the disease reaches the native range of black walnuts in central and eastern Kansas that we may lose this tree to both our urban and native forests.

The disease is known currently in the nearby states of Colorado and New Mexico. Colorado scientists believe that it is the movement of infected wood either as firewood or for woodworking that has introduced the disease into urban areas of Colorado.

Wood, bark, and chips with beetles and cankers are highly contagious and should

not be moved off of a site for three years.

Do not bring in walnut wood from out of state sources.



BE SAFE: When collecting branch samples be aware of high lines and obstructions. Wear safety glasses and a hard hat. Have equipment in good working condition.



This one log from an alley in Denver would be all it takes to start the disease in Kansas.



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Surveying and Sampling for Thousand Cankers Disease of Walnut



Plant Protection & Weed Control
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What to look for in a tree:

Thousand Cankers disease of walnut is a progressive disease that kills within 2-3 years after initial infection. The disease causing fungus, *Geosmithia* sp. is transmitted by a small twig beetle. Branches and trunk tissue are killed by repeated infections of the fungus. The disease is called Thousand Cankers from this repeated infection as beetles carry the fungus into new bark cambium tissue.

Here are several key points in surveying and sampling for Thousand Cankers. Dead trees require careful scrutiny of the localized area.

- Look for declining trees. Initial symptoms are yellowing and thinning then followed by death in 2-3 years. This is early symptom development,
- Trees with dead leaves are highly suspect and an advanced symptom. These branches collapse in late spring and summer and the leaves die and remain attached to the branch. This flagging symptom is similar to Dutch Elm Disease.
- In Colorado, twig beetles are attracted to branches that are on southerly and western exposures. Samples should if possible come from this area of the tree.
- Collect a sample from branches 2—4 inches in diameter. Cut the branch down. **Be safe.**

What to look for in a branch:

Take a strong bladed knife or drawknife and cut or scrape the bark away. Now take the knife and carefully slice the tissue directly under the bark parallel to the surface peeling the layers away. If the dieback is caused by Thousand Cankers you will see:

- Black cankers about the size of a dime or larger.
- Beetle galleries in the centers of the cankers.

You may also see:

- Beetles about the size of a pencil lead
- A gray spot/mass in some beetle galleries. This is a fungus colony.
- Small beetle entry holes in the bark above the cankers. *Image to right. M. Kennelly, KSU*



How to verify the cause:

You will need to send in a sample to be verified. Take a branch sample with cankers of about 2 foot in length from 2-4 branches of the tree. These should be 2-4 inches in diameter. Double seal the sample with 2 large garbage bags. Trim off excess branches and leaves before bagging. Box and ship the sample along with information regarding the location including GPS data. KDA personnel should use the plant disorder identification request form to accompany the sample.

**Mail to: Jon Appel, KDA
1711 Westbank Way
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Black cankers that have coalesced on a branch of 4 inches in diameter.



Look for leaves that died and remained attached to affected branches.



Beetle gallery in center of canker. Image by Whitney Cranshaw, Colorado State Univ.